AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (previously presented) A process for bleaching pulp with ozone, which comprises the steps of:

preparing a slurry of cellulosic pulp having a fiber consistency of from 1 to less than 5 weight %;

adding ozone to the cellulosic pulp in a contacting device to create a partial pressure [Pp] of O_3 greater than 1.4 psi and reacting the ozone with the pulp in said contacting device under high shear mixing conditions; and

maintaining the ozone in contact with the pulp in the contacting device under the high shear mixing conditions for a time ranging from 0.01 to 1 second thereby consuming 87-99% of the ozone.

Claim 2 (original) The process of claim 1, wherein the partial pressure of ozone applied to the contacting device is sufficient to give at least 0.2 units lower Kappa number as compared to 1.4 psi partial pressure ozone conditions using the same ozone dosage.

Claim 3 (currently amended) The process of claim 1 for bleaching pulp with ozone ~~wherein the bleached fibers are passed onto a chlorine dioxide bleaching stage~~, further comprising the step of:

allowing the ozone-contacted pulp to pass to a chlorine dioxide bleaching stage for further bleaching.

Claim 4 (original) The process of claim 1 for bleaching pulp, wherein the cellulosic pulp used to prepare the slurry is obtained from a chlorine dioxide bleaching stage.

Claim 5 (original) The process of claim 1, wherein the contacting device is a high shear mixer which produces high shear by high rotational speeds across a narrow gap through which the pulp slurry flows.

Claim 6 (original) The process of claim 1 for bleaching pulp, wherein the ozone/cellulosic pulp is passed into a pressurized retention tube where the ozone reacts with the lignin in the cellulosic pulp.

Claim 7 (original) The process of claim 6 for bleaching pulp, wherein the ozone/cellulosic pulp from the retention tube leaves the retention tube through a pressure control valve and is discharged into a separate vessel, where the gas is separated and then passed into an ozone destruct unit before venting to the atmosphere, and the pulp slurry is pumped to a subsequent bleaching stage.

Claim 8 (original) The process of claim 1 for bleaching pulp, wherein the ozone used in the process is generated on-site from oxygen in a pressurized ozone generator.

Claim 9 (original) The process of claim 8, in which the ozone generator produces ozone from oxygen at a concentration of from 4 to 20%.

Claim 10 (original) The process of claim 8, in which the ozone generator produces ozone from oxygen at a concentration of from 10 to 14%.

Claim 11 (original) The process of claim 8, wherein the source of oxygen used for ozone generation is an on site air separation process.

Claim 12 (original) The process of claim 11, wherein the air separation process is a vacuum swing absorption process.

Claim 13 (original) The process of claim 8 for bleaching pulp with ozone, wherein the ozone gas mixture generated is compressed to a total pressure of from 20-200 psi.

Claim 14 (original) The process of claim 8, wherein the ozone gas mixture generated is compressed to a total pressure of from 80 to 150 psi.

Claim 15 (original) The process of claim 1, wherein the partial pressure of ozone created in the contacting device ranges from greater than 1.4 psi up to 43 psi.

Claim 16 (original) The process of claim 1, wherein the partial pressure of ozone created in the contacting device ranges from 9.5 psi to 23 psi.

Claim 17 (original) The process of claim 1 for bleaching pulp, wherein the pulp slurry consistency is in the range of from 2 to 4 weight %.

Claim 18 (original) The process of claim 1 for bleaching pulp, wherein the ozone is mixed with the cellulosic fibers in the contacting device for a period of time ranging from 0.01 second to 1 minute.

Claim 19 (original) The process of claim 1, wherein the ozone is mixed with the cellulosic fibers in the contacting device for a period of time ranging from 0.04 second to 1 second.

Claim 20 (currently amended) The process of ~~claim 4~~ claim 6 for bleaching pulp, wherein the residence time in the retention tube ranges from 1 to 10 minutes. correct typographical error

Claim 21 (original) The process of claim 1 for bleaching pulp, wherein temperature of the pulp slurry entering the mixing with ozone is in the range of from 20 to 80 C.

Claim 22 (original) The process of claim 7 for bleaching pulp, wherein the subsequent bleaching stage involves chlorine dioxide as the bleaching agent.

Claim 23 (original) The process of claim 5, wherein a gas meter is present in a conduit to the high shear mixer in order to regulate the flow of gas mixture to the mixer.

Claim 24 (original) The process of claim 5, wherein the high shear mixer is connected to an ozone compressor such that the ozone delivered to the high shear mixer contacting device has been first compressed.

Claim 25 (previously presented) The process of claim 1, wherein ozone is added directly to said contacting device.

Claim 26 (new) The process of claim 8, in which the ozone generator produces ozone from oxygen at a concentration of from 10-20%.

Claim 27 (new) The process of claim 8, wherein the ozone generator is operated at a pressure of from about about 20-60 psig.

Claim 28 (new) The process of claim 8, wherein the ozone generator is operated at a pressure of from about about 30-40 psig.

Claim 29 (new) The process of claim 1, wherein temperature of the pulp slurry entering the mixing with ozone is in the range of from 40 to 60 C.

Claim 30 (new) The process of claim 1, wherein the ozone is added to the pulp in an amount of from about 2-10 kg/ton of pulp.

Claim 31 (new) The process of claim 1, wherein the ozone is added to the pulp in an amount of from about 5-6 kg/ton of pulp.

Claim 32 (new) The process of claim 6 for bleaching pulp, wherein the residence time in the retention tube ranges from 2 to 5 minutes.

Claim 33 (new) The process of claim 1, wherein the partial pressure of ozone applied to the contacting device is sufficient to give at least 1 unit lower Kappa number as compared to 1.4 psi partial pressure ozone conditions using the same ozone dosage.